

CLAIMS

1. A sealing valve for a medical apparatus, made of an elastic material and having a valve hole at a center thereof, characterized in that the valve hole of the sealing valve is opened by pressing and deforming the sealing valve by means of a tip end of a male connection port, without allowing the tip end of the male connection port to run through the sealing valve.
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- 10 2. A sealing valve for a medical apparatus, made of an elastic material and provided with an approximately semispherical portion having a valve hole at a top thereof, wherein the valve hole is opened by pressing and deforming the semispherical portion of the sealing valve by means of a tip end of a male connection port.
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3. A sealing valve for a medical apparatus, made of an elastic material, the valve having a cylindrical shape with a ceiling portion being an arched convex face that protrudes downward, the ceiling portion being provided with a valve hole formed therein, wherein the valve hole is opened by pressing and deforming the ceiling portion.
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4. The sealing valve for a medical apparatus according to claim 1, wherein the valve is made of an elastic
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material, and is provided with an approximately semispherical portion having the valve hole at a top thereof, and the valve hole is opened by pressing and deforming the semispherical portion of the sealing valve by 5 means of the tip end of the male connection port without allowing the tip end of the male connection port to run through the valve hole.

5. The sealing valve for a medical apparatus according 10 to claim 1, wherein the valve is made of an elastic material, and has a cylindrical shape with a ceiling portion being an arched convex face that protrudes downward, the valve hole is provided at the ceiling portion, and the 15 valve hole is opened by pressing and deforming the ceiling face without allowing the tip end of the male connection port to run through the valve hole.

6. The sealing valve for a medical apparatus according 20 to any one of claims 1 to 3, having either or both of a ring portion and a concave portion in a surrounding area of the valve hole.

7. A connection port wherein
the sealing valve for a medical apparatus according 25 to any one of claims 1 to 3 is mounted in an opening

portion of the medical apparatus,

the connection port has a sleeve portion provided to surround the opening portion of the medical apparatus, the sleeve portion being arranged to press the sealing valve for the medical apparatus so as to press and hermetically seal the valve hole of the sealing valve for the medical apparatus, the sleeve portion including a screwing piece on its outer circumferential surface, the sleeve portion allowing a lock type syringe to be inserted into and 10 screwed with, and

when the lock type syringe has been inserted into the sleeve portion, a tip end of the lock type syringe presses and deforms the sealing valve for the medical apparatus so as to open the valve hole of the sealing valve for the 15 medical apparatus, without running through the sealing valve for the medical apparatus.

8. The connection port according to claim 7, wherein
a level of an upper end of the sealing valve for the
20 medical apparatus is substantially coincident with a
position of an upper end of the sleeve portion, and a
cushion portion is provided in a lower portion of the
sealing valve for the medical apparatus, which is pressed
and goes down when a male connection port is inserted into
25 the sleeve portion, and brings the upper end of the sealing

valve for the medical apparatus to a predetermined position inside the sleeve portion when the lock type syringe has been pulled out from the sleeve portion.

5 9. The connection port according to claim 7, comprising the sleeve portion provided on its ceiling and a cap member, attached to the opening portion of the medical apparatus, for covering the sealing valve for the medical apparatus, the opening portion and the cap member including attachment portions that are to be overlapped in a vertical direction, each attachment portion having a ridge portion and a valley portion that become convex or concave in the vertical direction in such a manner that engagement of the ridge portions and the valley portions between the opening portion and the cap member prevents rotation of the cap member together with the lock type syringe.

10. The connection port according to claim 7, comprising the sleeve portion provided on its ceiling and a cap member, attached to the opening portion of the medical apparatus, for covering the sealing valve for the medical apparatus, the cap member being arranged to fit into the opening portion in a radial direction of the opening portion, each of the opening portion of the medical apparatus and the cap member including a ridge portion and a valley portion that

become convex or concave in the radial direction at a fitting position in the radial direction in such a manner that engagement of the ridge portions and the valley portions between the opening portion and the cap member 5 prevents rotation of the cap member together with the lock type syringe.

11. A mixed injection tube in which the sealing valve for a medical apparatus according to any one of claims 1 to 3
10 is mounted to an opening portion of a main body of the mixed injection tube, the main body including connection ports at both ends to each of which an infusion tube is to be connected, and a channel having the opening portion at its center, a cap member with a sleeve portion provided on 15 its ceiling being mounted to the opening portion of the main body, the mixed injection tube characterized in that
the mixed injection tube comprises: a protruding stria provided at a tip end on an outer circumferential surface of the sleeve portion, with which a female screw
20 structure formed on an inner circumferential surface of a collar of a lock type syringe is to be screwed; and
a resistance application portion, provided in a middle part on the outer circumferential surface of the sleeve portion, for temporarily stopping and holding a lock
25 type syringe inserted into the sleeve portion at an

intermediate site of the sleeve portion while the valve hole of the sealing valve for the medical apparatus is closed,

5 during insertion of the lock type syringe into the sleeve portion, the lock type syringe is temporarily stopped at the intermediate site of the sleeve portion by the resistance application portion, and then, when a male connection port of the lock type syringe is inserted into the sleeve portion more deeply, a tip end of the male 10 connection port presses and deforms the sealing valve for the medical apparatus, thereby opening the valve hole of the sealing valve.

12. The mixed injection tube according to claim 11,
15 wherein

the resistance application portion is a second protruding stria provided in the middle part on the outer circumferential surface of the sleeve portion, screwed with a double thread female screwing structure of the lock type
20 syringe.

13. A connection tool for connecting to an infusion circuit including one medical infusion line as a main line, a plurality of other medical infusion lines, and a
25 plurality of syringes, comprising: a main connection tube

to be provided in a midway portion of a tube of the one medical infusion line; and a plurality of branch connection tubes branching from a surrounding area of the main connection tube, wherein the sealing valve for a medical apparatus according to any one of claims 1 to 3 is mounted in a top-end opening portion of each of the branch connection tubes.

14. The connection tool for connecting to an infusion circuit according to claim 13, wherein the branch connection tube is provided with a linking portion for linking a tube of the other medical infusion line or the syringe thereto.

15 15. A connection system for an infusion circuit, in which the connection tool for an infusion circuit according to claim 13 is attached to one medical infusion line, the valve hole of the sealing valve for the medical apparatus mounted in each connection port of the connection tool is opened by pressing and deforming the sealing valve for the medical apparatus by means of a tube of the other medical infusion line or a tip end of a syringe, without insertion of the tube of the other medical infusion line or the syringe, to allow connection of the tube of the other medical infusion line or the syringe to the one medical

infusion line.